REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-16 are pending in the present application. No claim amendments are presented, thus no new matter is added.

In the Office Action, Claims 1, 8, 15 and 16 are rejected under 35 U.S.C. § 112, first paragraph; Claims 1-5, 8-12 and 15-16 are rejected under 35 U.S.C. § 103(a) as unpatentable over Kondo et al. (U.S. Pub. 2004/0021775, herein Kondo '775) in view of Burt et al. (U.S. Pat. 5,999,662, herein Burt); Claims 6 and 13 are rejected under 35 U.S.C. § 103(a) as unpatentable over Kondo '775 in view of Burt and Wang et al. (U.S. Pat. 5,557,684, herein Wang); and Claims 7 and 14 are rejected under 35 U.S.C. § 103(a) as unpatentable over Kondo '775 in view of Burt, Wang and Kondo et al. (U.S. Pat. 5,940,539, herein Kondo '539).

As an initial matter, Applicants appreciatively acknowledge the courtesy extended by Examiner Thirugnanam in holding a personal interview with the undersigned on October 13, 2009. During the interview, an overview of the claimed invention was presented and the outstanding rejections under 35 U.S.C. § 112, first paragraph, and 35 U.S.C. § 103 were discussed. No agreement was reached during the interview pending the submission of a formal response to the outstanding Office Action.

The Office Action rejects Claims 1, 8, 15 and 16 under 35 U.S.C. § 112, first paragraph, asserting that the specification fails to provide support for the feature of "... combining the motion-blurring-mitigated object image ... into a space-time location in each of the multiple images ..." Applicants respectfully traverse this rejection.

As disclosed in an exemplary embodiment at p. 15, l. 18 – p. 16, l. 17 of the originally filed disclosure, a motion-blurring-mitigated object image generation section 40 specifies a

region or calculates a mixture ratio based on the motion vector MVC, the processing region

information HZ, and the image data DVa and uses the calculated mixture ratio to separate

foreground component and background component from each other. Furthermore, it

performs a motion blurring adjustment on an image of the separated foreground component

to generate a motion-blurring-mitigated object image. Further, foreground component image

data ***DBf that is image data of the motion-blurring-mitigated object image*** acquired by this

motion-blurring adjustment is supplied to the output section 50. Image data DBb of the

separated background component is also supplied to the output section 50. The output

section 50 ***combines an image of foreground region in which motion blurring based on the***

foreground component image data DBf onto a background image based on the background

component image data DBb, thereby generating image data DVout and outputting it.

Thus, as discussed during the interview, this portion of the specification clearly

discloses that the motion-blurring-mitigated image is corrected, and combined with the

background of the image from which it was extracted to generate image data DVout.

This portion of the specification further describes that, the foreground region image,

which is the motion-blurring-mitigated object image, can be combined into a space-time

position that corresponds to the detected motion vector MVC, to output a motion-blurring-

mitigated object image of the moving object to a position that tracks the moving object. That

is, when the motion vector is detected using at least first and second images ***that occur***

successively in time, a motion-blurring-mitigated object image of the moving object is

combined into a position of a target pixel in ***an image or a position that corresponds to a***

target pixel in the other image, both positions of which correspond to this detected motion

vector.

Therefore, this portion of the specification discloses that the motion-blurring-mitigated object image of the moving object may be combined back into the image from which it was extracted as well as another image "occurring successively in time".

Figs. 24A-25F and p. 47, l. 1 – p. 48, l. 17 of the originally filed specification further expand on this feature by disclosing that motion blurring of an moving object OBf is mitigated to output its image (e.g. "the motion-blurring-mitigated object image"), so that, as shown in Fig. 24 even when the moving object OBf moves <u>in an order of Figs. 24A, 24B, and 24C</u>, motion blurring of this moving object OBf has been mitigated as tracking <u>it</u> (e.g. "the motion-blurring-mitigated object image") through each of the time sequence of images. Alternatively, by controlling a display position of an image so that the image of the motion-blurring-mitigated moving object OBf may be located to a predetermined position on a screen on the basis of the moving object OBf, <u>such an image can be output as to track the moving object OBf</u>. In this case, the motion vector detection section 30 moves a tracking point set in a region indicated by the region selection information HA in accordance with a motion vector MV, to supply the output section 50 with coordinates information HG that indicates the tracking point after this movement. The output section 50 generates such the image data DVout that the tracking point indicated by the coordinate information HG may be located to the predetermined position on the screen. It is thus possible to output an image <u>as if the moving object OBf is being tracked</u>.

This disclosure along with the process of tracking the motion-blurring-mitigated object image through an order of images, as discussed above, clearly provides support for the feature of "... combining the motion-blurring-mitigated object image ... into a space-time location in each of the multiple images ...", as recited in independent Claims 1, 8, 15 and 16.

Further, with respect to the written description requirement, there is no *in haec verba* requirement, and claim limitations may be supported by the specification through *express,*

implicit, or inherent disclosure.[1] To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention.[2]

If a skilled artisan would have understood the inventor to be in possession of the claimed invention at the time of filing, even if every nuance of the claims is not explicitly described in the specification, then the adequate description requirement is met. See, e.g., *Vas-Cath*, 935 F.2d at 1563, 19 USPQ2d at 1116; *Martin v. Johnson*, 454 F.2d 746, 751, 172 USPQ 391, 395 (CCPA 1972) *(stating "the description need not be in ipsis verbis [i.e., "in the same words"] to be sufficient").*

The analysis of whether the specification complies with the written description "is conducted from the standpoint of one of skill in the art. Generally, there is an inverse correlation between the level of skill and knowledge in the art and the specificity of disclosure necessary to satisfy the written description requirement."[3]

Moreover, the MPEP discusses several factors that must be considered in order to make a 112, first paragraph, rejection for lack of written description. The MPEP states:

> Whether the specification shows that applicant was in possession of the claimed invention is not a single, simple determination, but rather is a factual determination reached by considering a number of factors. Factors to be considered in determining whether there is sufficient evidence of possession include the level of skill and knowledge in the art, partial structure, physical and/or chemical properties, functional characteristics alone or coupled with a known or disclosed correlation between structure and function, and the method of making the claimed invention.
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> The description needed to satisfy the requirements of 35 U.S.C. 112 "varies with the nature and scope of the invention at issue, and with the scientific and technologic knowledge already in existence." Capon v. Eshhar, 418 F.3d at 1357, 76 USPQ2d at 1084.
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[1] MPEP § 2163.
[2] *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555 (Fed. Cir. 1991).
[3] Page A-7 of the USPTO's *Written Description Training Materials*, revision 1, March 25, 2008.

Thus, an inventor is not required to describe every detail of his invention. An applicant's disclosure obligation varies according to the art to which the invention pertains. Disclosing a microprocessor capable of performing certain functions is sufficient to satisfy the requirement of section 112, first paragraph, when one skilled in the relevant art would understand what is intended and know how to carry it out.").[4]

The outstanding Office Action fails to provide any explicit analysis as to the above-noted factors, which are pertinent to a determination of compliance with the written description requirement. Thus, the outstanding Office Action has failed to set forth a *prima facie* case of failing to comply with the written description requirement.

Further, as noted above, the specification does explicitly describe the feature of "... combining the motion-blurring-mitigated object image ... into a space-time location in each of the multiple images ..." Thus, a person of ordinary skill in the art would recognize that the inventor was in possession of the claimed invention at the time of filing and the written description requirement is satisfied.

Accordingly, Applicants respectfully request that the rejection of Claims 1-8 under 35 U.S.C. § 112, first paragraph, be withdrawn.

The Office Action rejects Claims 1-5, 8-12 and 15-16 under 35 U.S.C. § 103(a) as unpatentable over Kondo '775 in view of Burt. Applicants respectfully traverse this rejection, as Burt fails to teach or suggest the claimed features for which it is asserted as a secondary reference under 35 U.S.C. § 103.

Independent Claim 1, for example, recites, *inter alia*, an apparatus for processing an image, said apparatus comprising:

> motion vector detection means for detecting a motion vector about a moving object that moves in multiple images ... and tracking the moving object;
> motion-blurring-mitigated object image generation means for generating *a motion-blurring-mitigated object image* in which motion

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[4] MPEP §2163, emphasis added.

            blurring of the moving object is mitigated using the motion vector detected by
the motion vector detection means; and

                output means for combining *the motion-blurring-mitigated object
image* ... into *a space-time location in each of the multiple images* based on
the motion vector detected by the motion vector detection means, to output it
as a motion-blurring-mitigated image.

Independent Claims 8 and 15-16, while directed to alternative embodiments, recite

similar features. Accordingly, the remarks and arguments presented below are applicable to

each of independent Claims 1, 8, 15 and 16.

In rejecting Claim 1, p. 5 of the Office Action concedes that <u>Kondo</u> '775 fails to

disclose "combining the motion-blurring-mitigated object image ... into a space time location

in each of the multiple images". In an attempt to remedy this deficiency, the Office Action

cites Fig. 9 of <u>Burt</u> noting "where from a sequence of frames a foreground (residuals)

(moving object) is extracted, which is then combined with a mosaic of background frames".

More particularly, Fig. 9 and col. 14, l. 28 – col. 17, l. 10 of <u>Burt</u> describes a process

of separating background and residual images so that a static background mosaic 904 can be

generated by combining the separated background images. As described at col. 15, ll. 7-20 of

<u>Burt</u>, this static background mosaic 904 is a single image that is used for purposes of

searching through scenes and extracting a single frame of interest. Thus, the static

background mosaic 904 is a <u>single image</u>, and <u>Burt</u> fails to teach or suggest that the separated

residual images are added back into the static background mosaic 904, whatsoever.

Moreover, even if the separated residual images in <u>Burt</u> were to be added back into

the static background mosaic 904, this process would include adding the individual residual

images separated from each frame into the static background mosaic 904. Thus, this process

would include adding <u>a plurality of residual images</u> into the <u>single</u> static background mosaic

904. This process is the opposite of that recited in Claim 1, which specifies "combining *the*

motion-blurring-mitigated object image ... into a space time location in *each of the multiple*

images". Burt, on the other hand, at best, possibly describes adding a plurality of extracted residual images into a single background image.

Kondo '775, therefore, even if combined with Burt, fails to teach or suggest "generating *a* motion-blurring-mitigated object image" and "combining *the* motion-blurring-mitigated object image ... into *a space-time location in each of the multiple images* based on the motion vector detected by the motion vector detection means", as recited in amended independent Claim 1.

Accordingly, Applicants respectfully request that the rejection of Claim 1 (and Claims 2-5 which depend therefrom) under 35 U.S.C. § 103 be withdrawn. For substantially similar reasons, it is also submitted that independent Claims 8 (and Claims 9-12, which depend therefrom) and 15-16 patentably define over Kondo '775 and Burt.

Regarding the rejection of Claims 6-7 and 13-14 under 35 U.S.C. § 103 as unpatentable over Kondo '775 in view of Burt and Wang and/or Kondo '539, Applicants note that Claims 6-7 and 13-14 depend from independent Claims 1 and 8, respectively, and are believed to be patentable for at least the reasons discussed above. Further, Applicants respectfully submit that neither Wang nor Kondo '539 remedy the above-noted deficiencies of Kondo '775.

Accordingly, Applicants respectfully request that the rejection of Claims 6-7 and 13-14 under 35 U.S.C. § 103 be withdrawn.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-16 is definite and patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.
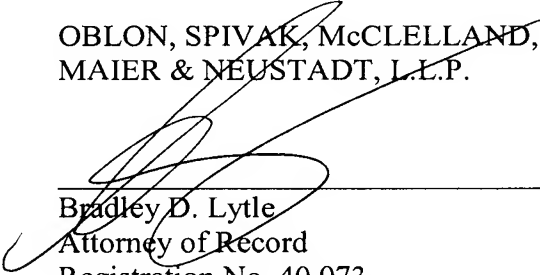
Respectfully submitted,

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